BRIEF IN SUPPORT OF PETITION.

Jurisdiction.

Petitioners would invoke the jurisdiction of this Court under Section 240 (a) of the Judicial Code as amended by Act of February 13, 1925, U. S. C. Tit. 28, Sec. 347, to review a judgment of the Seventh Circuit Court of Appeals entered June 17, 1941 (R. 1033), in a suit for patent infringement brought under U. S. C., Tit. 28, Sec. 109; a petition for rehearing was denied September 11, 1941 (R. 1049). The petition is presented within three months from and after the denial of petition for rehearing.

Statement.

The petition contains a sufficient summary of the material facts for an understanding of the reasons relied upon for the allowance of the writ and statement of the questions involved.

Specification of Errors.

The Circuit Court of Appeals erred:

(1) In refusing its independent determination of the issues of laches and infringement and adopting the findings of fact of the District Court.

(2) In not adjudging that respondent is barred from any recovery of profits or damages because of the laches of its predecessors in title, and because of its own lack of diligence in pressing its claim.

(3) In failing to adjudge claims 3, 5, 8, 9, 10 and 11 of Eden patent No. 1,408,869, invalid and not infringed, and in not reversing the judgment of the District Court and ordering that the bill of complaint be dismissed with costs.

(4) In affirming the judgment of the District Court holding said claims valid and infringed and ordering an accounting of profits and damages.

ARGUMENT.

I.

In Refusing its Independent Determination of the Issues of Laches and Infringement and Thus Depriving Petitioner of a Review of Important Questions of Law the Court of Appeals has Applied FRCP 52 (a) in a Manner Manifestly Contrary to Its Provisions and Calling for the Exercise of the Supervisory Power of this Court.

FRCP 52 (a) by its express terms very clearly indicates that it was not intended to limit the right of a litigant to a review of questions of law properly presented on the record on appeal under U. S. C., Tit. 28, Sec. 225. The barrier of that rule applies only to *findings of fact* which are not clearly erroneous.

In the instant case, with respect to the issues of both laches and infringement, there was no dispute as to the facts, no question of the credibility of witnesses, but a question of law as to whether or not on the undisputed facts the essential elements of laches and infringement were present.

As to laches, the finding of the District Court (R. 761) that respondent and its predecessors in title had no knowledge that petitioners "were infringing" the Eden patent until after respondent purchased it was beside the point. The question before the court was whether or not in the circumstances the respondent and its predecessors were charged with the duty of giving notice or making a claim of infringement against The Maytag Company. This question does not depend on whether or not they knew that petitioners "were infringing" the Eden patent.

As this Court more than once has said, "the law im-

putes knowledge when opportunity and interest, combined with reasonable care, would necessarily impart it.

"Not to improve such opportunity, under the stimulus of self-interest, with reasonable diligence, constitutes laches which in equity disables the party, who seeks to revive a right which he has allowed to lie unclaimed, from enforcing it to the detriment of those who have, in consequence, been led to act as though it were abandoned." *Wollensak* v. *Reiher,* 115 U. S. 96, 99; *Ives* v. *Sargent,* 119 U. S. 652, 661; *Booth Fisheries Corp.* v. *Coe,* 114 F. (2) 462, 463 (App. D. C.).

The record in the instant case clearly calls for the application of the rule thus stated. In addition to differences of construction between the accused device and that of the Eden patent, indicating non-infringement, the record incontrovertibly shows:

(1) That throughout the entire period under consideration, that is, from 1927 on, respondent and its predecessors in title were in close relationship with The Maytag Company by virtue of their being licensees of that company under patents relating to swinging wringers of the type shown in the Eden patent, and exchanged circulars illustrating their respective machines, including those involved in this case (R. 130-1, 135, 222-3, 225, 236-8, 600; D. E. 73, R. 598).

(2) That during such entire period respondent and its predecessors in title knew of the extensive advertising, manufacture, and sale throughout the country by The Maytag Company of washing machines equipped with the accused devices (R. 104, 130-1, 135).

(3) That the single handle control is a conspicuous feature of those machines and was emphasized in the circulars referred to (D. E. 73, R. 598) and although

the interlocking mechanism, as that of the Eden patent, is enclosed within a housing, anyone at all interested must, upon trying to operate its distinctive single handle control, immediately be impressed with the interconnection or interlock preventing swinging of the wringer while the wringer rolls are in operation, and easy access to the interior is afforded upon the simple removal of two screws.

(4) That no notice was ever given and no claim ever made of infringement of the Eden patent, and no machine or device was ever marked under it, although respondent and its predecessors were making swinging wringers, during that time (R. 24-6, 129-30).

(5) That in the period under consideration The Maytag Company sold more than a million machines equipped with the accused device, which went into use in homes throughout the country, and went to great expense unaware that it was years later to be confronted with a charge of infringement of the Eden patent (R. 241-2, 226).

In this state of facts the question of laches becomes one of law controlled by the rule of *Wollensak* v. *Reiher* and *Ives* v. *Sargent* above-quoted and it is immaterial that respondent and its predecessors in title had no knowledge that petitioners "were infringing" the Eden patent.

As to infringement, this Court in *Singer* v. *Cramer,* 192 U. S. 265, 275, laid down the rule that it is a question of law where the Court is able, as in this case, "from mere comparison to comprehend what are the" respective structures "and from such comparison to determine whether or not" the one "is an infringement upon" the other. It was the duty of the Court of Appeals to have followed this rule and determined the issue of infringement itself by comparison of the accused device with that of the Eden

patent instead of holding itself obligated to accept the findings and conclusion of the District Court on this issue under FRCP 52 (a).

The issues of laches and infringement on the record were issues of law determinative of the action. A decision for petitioners on either issue would have required a reversal of the judgment of the District Court. The Court of Appeals' refusal of its independent consideration and determination of these issues deprived petitioners of a substantial right and established a precedent contrary to the public interest, and should be corrected through the issuance of the writ of certiorari.

That in the circumstances presented a writ of certiorari will issue, see *Chandler Co.* v. *Brandtjen, Inc.*, 295 U. S. 724; 296 U. S. 53; *Sibbach* v. *Wilson & Co.*, 309 U. S. 650; 312 U. S. 1.

II.

The Decision of the Court of Appeals Indicates Confusion Regarding the Application of the Test of Infringement Prescribed in Miller v. Eagle Mfg. Co., 151 U. S. 186, 208, and Westinghouse v. Boyden Co., 170, U. S. 537, 570, Which this Court Should Correct.

Relying on *Continental Co.* v. *Eastern Co.*, 210 U. S. 405, *Hildreth* v. *Mastoras*, 257 U. S. 27, *Eibel Co.* v. *Paper Co.*, 261 U. S. 45, and *Sanitary Co.* v. *Winters*, 280 U. S. 30, the Court of Appeals declined to apply the test of *physical* interchangeability as indicated in the *Miller* case thinking that this Court intended the test to be that of *functional* interchangeability (R. 1025). The error of the Court of Appeals is indicated by its own opinion in the earlier decided case of *Jogger Manufacturing Corp.* v. *Roquemore*, 118 F. (2), 867, now pending in this Court on

petition for writ of certiorari (No. 1064), where the Court speaking through Judge Evans said (p. 870):

> "Plaintiff's counsel has rather adroitly interchanged the functions and the elements of the accused device, thereby creating some confusion as to their equivalency. Functions may well be investigated and examined to ascertain the range of mechanical equivalents. But *there is no basis for asserting infringement because of similarity of functions. There must be similarity of elements which perform the desired functions before infringement is shown.*"*

Other inconsistent decisions of the same court include *Benoit* v. *Wadley*, 54 F. (2) 1041, 1043; *Hajek* v. *Radio Corp.*, 83 F. (2d) 1, 2; *Burroughs Adding Machine Co.* v. *Felt & Tarrant Mfg. Co.*, 243 Fed. 861, 868-9. See also *American Laundry Machine Co.* v. *Strike*, 103 F. (2d) 453, 457, C. C. A. 10. In all those cases the court correctly applied the rule limiting the claims of the patent sued upon to the elements shown in the drawings and described in the specification just as though each of them was specifically enumerated in the claims. And that is what should have been done in the instant case.

Moreover, the decisions of this Court relied on by the Court of Appeals do not go so far as that court seemed to think. In the *Paper Bag Patent* case (210 U. S. 405) the problem was that of bringing two parts into a working relation. That had never been done. The Court pointed out that there were two ways of doing it saying (p. 421):

> "The problem may be solved by causing the pivot or axis of the folding plate to yield away from the cylinder, or by causing the surface of the cylinder to be depressed away from the folding plate. The patent in suit adopts the first device, the defendant's machine the second, and the crucial question before the court is this; Under all the circumstances of the

* Emphasis ours.

> case, is the second method, as compared with the first, within the doctrine of equivalents?"

And the question was answered in the affirmative.

In the instant case Eden merely positioned a specific, old form of interlock in a new location. Petitioners, on the other hand, reconstructed the entire control mechanism and used a different form of interlock, operating in an entirely different way, in a different location to achieve the same result. In such a case the doctrine of the *Paper Bag Patent* case would not apply.

In *Hildreth* v. *Mastoras*, 257 U. S. 27, the patent sued upon also was a pioneer, entitled to a broad range of equivalents and the accused machines operated upon the same principle as the machine of the patent and the doctrine of equivalents was held to be applicable. In *Eibel Co.* v. *Paper Co.*, 261 U. S. 45, the elements of the defendant's machine were plain mechanical equivalents of the elements of the patented machine. In *Sanitary Co.* v. *Winters*, 280 U. S. 30, there was a mere colorable departure from the description in the patent. Obviously the cases cited do not support the ruling of the Court of Appeals.

In *Westinghouse* v. *Boyden Co.*, 170 U. S. 537, 570, in which a similar argument was advanced in behalf of plaintiff, this Court after pointing out that infringement involves substantial identity of means employed as well as of result, said (p. 568):

> "The argument used to show infringement assumes that every combination of devices in a machine which is used to produce the same effect is necessarily an equivalent for any other combination used for the same purpose. This is a flagrant abuse of the term equivalent."

The radical departure of the holding of the Court of Appeals on the subject of interchangeability as a test of infringement from the rule of *Miller* v. *Eagle Mfg. Co.*,

and *Westinghouse* v. *Boyden Co.,* calls for the issuance of the writ.

III.

The Reliance of the Court of Appeals on the Paper Bag Patent Case in Upholding the Validity of Claims of the Eden Patent Which are clearly Within General Electric Co. v. Wabash Co., 304 U. S. 364, 371, Inhibiting the Employment in a Patent Claim of Functional Language at the Exact Point of Novelty, Calls for Clarification by this Court of the Law on the Point.

In *General Electric Co.* v. *Wabash Co.*, 304 U. S. 364, the Court disapproved partially functional claims saying (p. 371):

> ". . . the vice of a functional claim exists not only when a claim is 'wholly' functional, if that is ever true, but also when the inventor is painstaking when he recites what has already been seen, and then uses *conveniently functional language at the exact point of novelty.*"*

That is precisely what was done in the Eden patent in suit. Claim 8, which the Court of Appeals selected as typical of the claims of the Eden patent in suit reads:

> "In a device of the character described, the combination with a wringer pivoted about a vertical axis, and a driving member concentric with said axis, for operating the same, of means for making and breaking the operative connection between said member and wringer, means for locking said wringer in fixed position relatively to said vertical axis, and *means preventing the making of operative connections between said member and wringer except when said wringer is locked.*"

This claim depends for novelty,—if it has any in view of

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* Emphasis ours.

the fact that everything else was admittedly old and shown in the prior art of record (R. 844-953, 978), on the italicized portion, which is a purely functional phrase in terms embracing any means for preventing the making of an operative connection between the driving member and the wringer except when the wringer is locked so that it cannot be swung about its vertical axis. The other claims in suit have similar functional phrases.* Certainly these functional statements come within the inhibition of the *General Electric* case.

The subject of functional claims is an important one in the law of patents and the line of demarcation between proper and improper functional statements in patent claims ought to be clearly defined.

IV.

The Decision of the Court of Appeals Conflicts with Applicable Decisions of this Court and Other Circuit Courts of Appeals on the Subject of Laches and Adds to the Already Existing Confusion Among the Federal Courts as to the Law on that Subject.

In affirming the judgment of the District Court the Court of Appeals not only adopted the finding of the trial court on the issue of laches but approved that portion of the judgment awarding respondent an accounting of profits and damages, which is based on a conclusion of law as follows (R. 761):

> "Plaintiff is not barred by laches from maintaining its action and is entitled to an accounting of profits and damages for the infringement of the Eden patent during the period plaintiff has owned this patent. The question is reserved for ruling in the accounting as to whether plaintiff is entitled to any accounting for any previous period."

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* We have attached in an appendix a copy of the Eden patent with underscoring indicating in claims 3, 5, 8, 9, 10 and 11 the functional language used at the sole point of novelty.

The incongruity thus presented springs from the confused state of the law on the subject of laches resulting from *Menendez* v. *Holt*, 128 U. S. 514, 524; *Keyes* v. *Eureka Mining Co.*, 158 U. S. 150, 153, 154, and cases there cited, and other decisions of this Court including *Willard* v. *Wood*, 164 U. S. 502, 525; *Electric Co.* v. *Boston Co.*, 139 U. S. 481; *Hartshorn* v. *Saginaw Barrell Co.*, 119 U. S. 664.

On the one hand in numerous decisions of the various circuit courts of appeals denying any recovery of profits and damages, it has been held that it is of no avail that the present owner of a patent may have acted promptly upon acquring title to it as the laches of his predecessors in title is imputed to him. *George J. Meyer Mfg. Co.* v. *Miller Mfg. Co.*, (C. C. A. 7), 24 F. (2d) 505, 506; *A. R. Mosler & Co.* v. *Lurie*, (C. C. A. 2), 209 Fed. 364, 370; *Gillons* v. *Shell Co.*, (C. C. A. 9), 86 F. (2d) 600, 605. *Woodmanse & Hewitt Co.* v. *Williams*, (C. C. A. 6), 68 Fed. 489, 492. See also *Otis Elevator Co.* v. *Atlantic Elevator Co.* 47 F. (2d) 545, 548, C. C. A. 2; *Radio Co.* v. *Coe*, 75 F. (2d) 523 (app. D. C.); *Supreme Mfg. Corp.* v. *Security Mfg. Co.*, 299 Fed. 65, 68, C. C. A. 9.

The Seventh Circuit Court of Appeals, however, notwithstanding its recognition of that rule in the *George J. Meyer Mfg. Co.* case, has done as the District Court in this case has indicated that it might do, that is, allow the present owner a recovery of damages and profits for the period subsequent to his acquisition of title. *Wolf* v. *United States Co.*, 261 Fed. 195, 197; *Imperial Brass Co.* v. *Hackney*, 75 F. (2d) 689, 690, C. C. A. 7. A conspicuous vice of such a rule is that it sanctions the absolution of laches by transfer and gives a speculative purchaser of a patent a right of action which his assignor could not maintain. It thus invites the transfer and litigation of stale claims contrary to public policy.

Manifestly there is an incompatibility between the two views and this Court should resolve the difference.

The principle is well stated in *Speidel* v. *Henrici,* 120 U. S. 377, 387, where the Court, speaking through Mr. Justice Gray, said:

> "Independently of any statute of limitation, courts of equity uniformly decline to assist a person who has slept upon his rights and shows no excuse for his laches in asserting them. 'A court of equity,' said Lord Camden 'has always refused its aid to stale demands, where the party slept upon his rights, and acquiesced for a great length of time. Nothing can call forth this court into activity but conscience, good faith and reasonable diligence; where these are wanting, the court is passive and does nothing. Laches and neglect are always discountenanced; and, therefore, from the begining of this jurisdiction there was always a limitation to suits in this court.' "

In *Hayward* v. *National Bank,* 96 U. S. 611, not a patent case, the delay was only four years. The Court said, however (p. 617):

> "Courts of equity often treat a lapse of time less than that prescribed by the Statute of Limitations, as a presumptive bar, on the ground 'of discouraging stale claims, or gross laches, or unexplained acquiescence in the assertion of an adverse right.' "

The matter is one of principle. In *Westco-Chippewa Pump Co.* v. *Delaware, etc., Co.,* (C. C. A. 3), 64 F. (2d) 185, observing that (p. 187) "a uniform principle runs through all the cases," the Court further said:

> "They proceed on the theory that the plaintiff knows his rights and has had ample opportunity to establish them in the proper forum; that, because of delay, the defendant has good reason to think that the plaintiff believes his asserted rights to be worthless or that he has abandoned them. *Galliher* v. *Caldwell,* 145 U. S. 368, 372, 12 S. Ct. 873, 36 L. Ed. 738."

In the instant case, as the court said in *Delaney Patents Corp.* v. *Johns-Manville* (S. D. Cal.), 29 F. Supp. 431, 436:

> "Laches is clearly present here, as we have an inexcusable delay, in the face of wide commercial use of a product on a national scale by one who, from the circumstances narrated, cannot be said to have drawn upon the patent in suit for his device."

In such a case there is no substantial basis for a compromise or split. It is as inequitable to allow recovery for the period subsequent to respondent's purchase of the Eden patent as for the period prior thereto. This is especially so in view of respondent's own lack of diligence and vacillation in prosecuting its claim resulting in the lapse of more than five years from its acquisition of the patent before the case was brought to trial.

V.

Unlikelihood of a Conflict of Decisions Among Circuit Courts of Appeals Due to Expiration of the Eden Patent, and the Importance of the Questions of Law Involved Call for the Exercise of the Jurisdiction of This Court.

The situation in the instant case is analogous to that in *Schriber-Schroth Co.* v. *Cleveland Trust Co.*, 305 U. S. 47. In that case the court recognized that in view of the concentration of the automobile industry in the Sixth Circuit litigation over the patents in suit elsewhere would be unlikely and granted the writ notwithstanding want of conflict between decisions of two circuit courts of appeals. Here the Eden patent has expired and the only other litigation involving it (in which the issues and proof were substantially different) was settled for a nominal sum thus averting a decision of the Second Circuit Court of Appeals with respect to its validity.

The questions of which review is sought are important. The case is, therefore, a proper one for the issuance of the writ.

Respectfully submitted,

WALLACE R. LANE,

BENTON BAKER,

Counsel for Petitioner.

Violation of Rule of this Court in General Electric Co. v. Wabash Co., 304 U. S. 364, 371, Against Use of Functional Language at Exact Point of Novelty Exemplified in Asserted Claims of Eden Patent.

The Eden patent shows a complete washing machine with a swinging wringer attached. The washing machine and wringer constructions are admittedly old.

The only feature on which there can be any pretense of novelty in any of the claims asserted resides in an interlock between the clutch which controls the operation of the wringer rolls and the locking latch which prevents the wringer from swinging while the wringer rolls are being driven.

The specific interlock resides in a spring pressed pin between the handle of the locking latch and a grooved clutch which is mounted between the gears for driving the wringer rolls in either direction, in such a way that the wringer cannot be swung while the wringer rolls are operating.

The interlock is described in each of the claims asserted in functional language only. This functional language is underlined in the within copy of the Eden patent. It is only by disregarding the structure shown in the Eden patent that this language can be read on defendant's structure.

H. W. EDEN.

WRINGER FOR WASHING MACHINES.

APPLICATION FILED AUG. 13, 1917.

1,408,869.

Patented Mar. 7, 1922.

3 SHEETS—SHEET 1.

Fig. 1

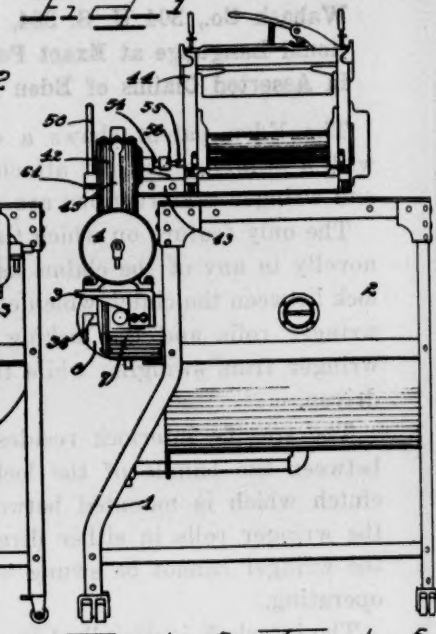

Fig. 2

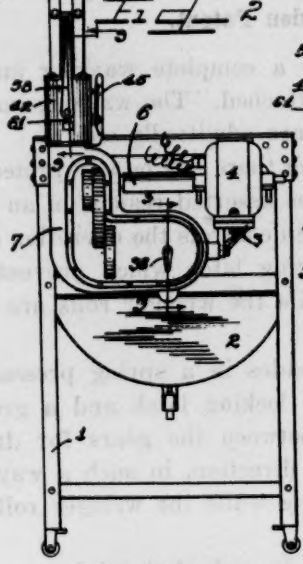

Fig. 3

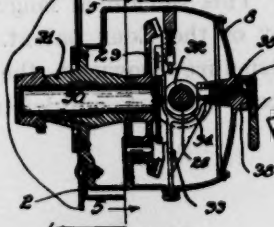

Fig. 4

Fig. 5

Witnesses

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WRINGER FOR WASHING MACHINES.

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3 SHEETS—SHEET 2.

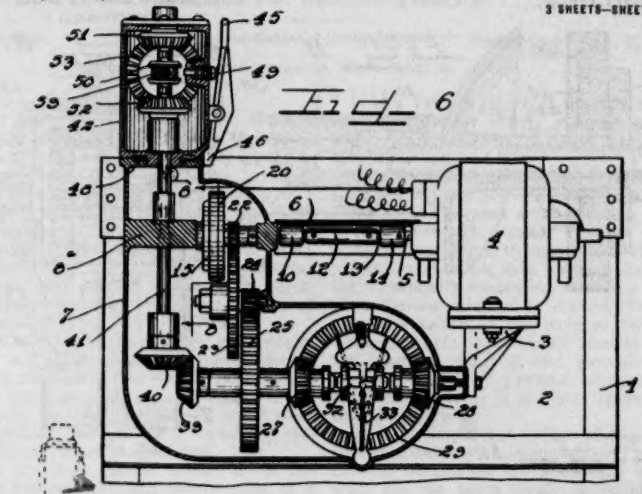

Fig. 6

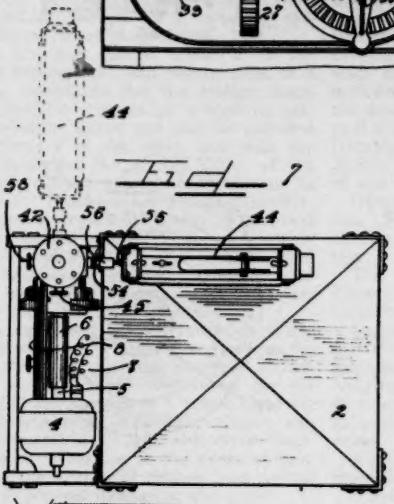

Fig. 7

Fig. 8

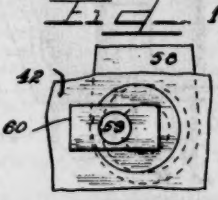

Fig. 10

Witnesses

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APPLICATION FILED AUG. 13, 1917.

1,408,869.

Patented Mar. 7, 1922.

3 SHEETS—SHEET 3.

Fig. 11

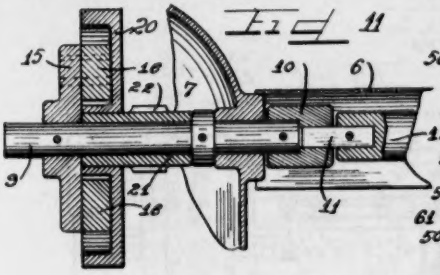


Fig. 9

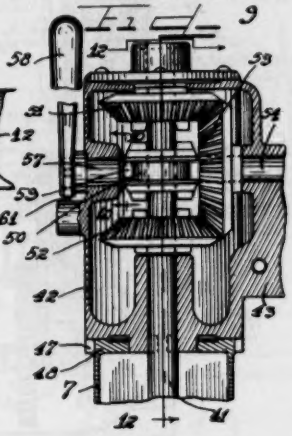


Fig. 12

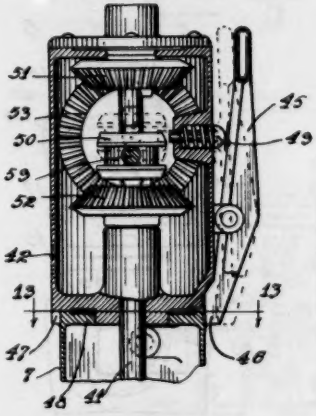
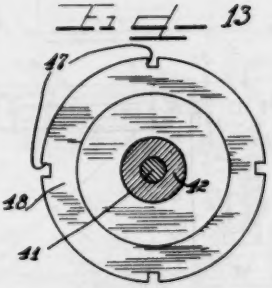


Fig. 13



Witnesses

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UNITED STATES PATENT OFFICE.

HAROLD W. EDEN, OF ALTON, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO GILLESPIE-EDEN CORPORATION, A CORPORATION OF DELAWARE.

WRINGER FOR WASHING MACHINES.

1,408,869. Specification of Letters Patent. Patented Mar. 7, 1922.

Application filed August 18, 1917. Serial No. 185,895.

To all whom it may concern:

Be it known that I, HAROLD W. EDEN, a citizen of the United States, and a resident of the city of Alton, in the county of Madison and State of Illinois, have invented certain new and useful Improvements in a Wringer for Washing Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the numerals of reference marked thereon, which form a part of this specification.

This invention relates more particularly to an adjustably mounted power driven wringer mechanism for use in combination with a washing machine, and is shown and described, but not claimed, in my Patent No. 1,387,696, patent for a "washing machine drive", dated August 16th, 1921.

This invention further relates to an improved arrangement and construction of a driving mechanism for the clothes drum and adjustable wringer of a washing machine whereby either one may be operated independently of the other, and with the drive shaft for the clothes drum of the machine reversed automatically during its operation. Furthermore, a releasable driving means is provided whereby in the event of the clothes drum or the adjustably mounted wringer becoming jammed, said means will permit slippage of the parts until the power can be turned off, thus protecting the mechanism from damage.

It is an object of this invention therefore to construct a driving mechanism for the parts of the washing machine embracing a reversing gear mechanism for the clothes drum, as well as a reversible drive for an adjustably mounted wringer, and with the parts of the reversible drive adapted to cease operation in the event of jamming of the wringer or clothes drum mechanisms to prevent damage to the parts.

It is also an object of this invention to construct a power driven washing machine wherein the driving means for a clothes drum and an adjustably mounted wringer are encased and mounted near the upper end of one side of the machine, and with the driving means for the clothes drum being entirely automatic in operation after the circuit to the driving motor is closed.

It is a further object of this invention to provide a power driven washing machine having a reversible wringer adjustably mounted thereon.

It is furthermore an object of this invention to provide a power driven washing machine having encased driving means mounted upon one side thereof adapted to continuously operate a wringer shaft when the power is turned on, said wringer shaft having a manually controlled reversing mechanism thereon adapted to control the direction of rotation of the wringer rolls of a wringer which is pivotally mounted upon the washing machine and provided with latching means to prevent adjustment of the wringer while it is under operation of the power drive.

It is an important object of this invention to construct an improved and compact driving mechanism for a washing machine with all the parts easily accessible, and mounted upon the upper end of one side of the frame of the washing machine to impart a drive to the clothes drum or an adjustably mounted wringer of the machine alternately or simultaneously independently of one another, as desired.

Other and further important objects of this invention will be apparent from the disclosures in the drawings and specification.

The invention (in a preferred form) is illustrated in the drawings and hereinafter more fully described.

On the drawings:

Figure 1 is a front view of a washing machine showing a wringer mechanism embodying the principles of my invention forming a part thereof and adjustably mounted on one side of the washing machine.

Figure 2 is a side elevation of the washing machine.

Figure 3 is a sectional detail taken on line 3—3, of Figure 2, with parts omitted and parts shown in elevation.

Figure 4 is a sectional detail through one of the gears of the reversing gear mechanism.

Figure 5 is a reduced sectional detail taken on line 5—5, of Figure 3.

Figure 6 is a fragmentary enlarged side view of the washing machine with the cas-

ing of the driving mechanism broken away and shown in section to illustrate the arrangement of the parts.

Figure 7 is a top plan view of the washing machine showing the operation of the wringer in dotted lines.

Figure 8 is an enlarged detail view taken on line 8—8, of Figure 6, with parts omitted and with parts shown in elevation.

Figure 9 is an enlarged fragmentary sectional detail taken on line 9—9, of Figure 2, with parts shown in elevation.

Figure 10 is a detail view of the wringer clutch controlling mechanism, showing a fragmentary portion of the clutch casing looking to the left of the line 10—10 of Figure 9, and shows the clutch shifting block and its support which is mounted in this portion of the casing.

Figure 11 is a fragmentary detail section showing the main drive shaft and friction releasing clutch which are driven by the motor.

Figure 12 is a section taken on line 12—12, of Figure 9, with parts shown in elevation.

Figure 13 is an enlarged section taken on line 13—13, of Figure 12.

As shown in the drawings:

The reference numeral 1, indicates the frame of a washing machine having a tub 2, of any usual or well known construction fitted therein, and with the driving mechanism for the machine mounted on one side of the frame. Mounted upon a bracket 3, which is secured upon the frame of the machine is a driving motor 4, and the drive shaft of said motor, denoted by the reference numeral 5, leads into a tubular casing 6, is connected upon the boss extension of a large base or casing 7, forming a part of or secured upon the frame of the washing machine and provided with an L-shaped cover plate 8, as shown in Figure 3. Said casing 7 is provided with an inwardly projecting extension 8*, as shown in Figure 6, affording a bearing for one end of a shaft 9, and the other end of said shaft extends through the wall of the casing 7 through a bearing provided therefor, and is provided with a coupling 10, pinned thereon. Secured in the coupling 10, is a short shaft section 11, which is pinned to a long coupling shaft or member 12, and pinned in the other end thereof is another short shaft section 13, which is secured in a coupling 14, pinned upon the motor drive shaft 5.

Secured upon the shaft 9, as shown in Figures 8 and 11, is a disk 15, and pivoted thereon are two arms 16, mounted on pintles 17. At the opposite ends of each of said arms 16, from the pintles 17, tension springs 18, are connected between said arms. Said arms are adapted to be thrown outwardly by centrifugal force, thereby thrusting a serrated or roughened clutch surface 19, into contact with the inner periphery of a clutch wheel 20, which is secured upon a sleeve 21, journalled on the shaft 9, the tension springs 18, serving to resist the outward movement of said arms.

Formed integral with the sleeve 21, is a pinion 22. Journalled upon a stud shaft secured in an extension of the frame casing 7, is a large gear 23, meshing with the pinion 22, and rigidly associated with said gear 23, is a small pinion 24. Said pinion 24, meshes with a large gear 25, journalled horizontally in the lower portion of the casing 7. Journalled upon the shaft 26, are a pair of pinions 27 and 28, respectively, each meshing with a large bevel gear 29, which is secured upon a shaft 30, extending through a bearing 31, in the casing 7, into the tub 2, of the washing machine for connection to the clothes drum (not shown) therein. Feathered upon the shaft 26, between the pinions 27 and 28, is a slidable jaw clutch member 32, adapted to engage with either of the complementary jaws provided on the extensions of the pinions 27 and 28, to lock the same to the drive shaft 26, and thereby drive the bevel gear 29. When the jaw clutch member 32, is in the intermediate or neutral position shown in Figure 6, it is out of engagement with both of the pinions 27 and 28, and no drive is imparted to the gear 29, for operation of the clothes drum.

The automatic mechanism for shifting the jaw clutch member 32, first into engagement with the pinion 27, and then into engagement with the pinion 28, to reverse the drive to the clothes drum is the same as that shown in my Patent No. 1,299,925, for "clutch shifting mechanisms," dated April 8th, 1919, and hence the details of construction will not be entered into here since they form no part of the present invention.

The shifting arm or lever for the jaw clutch member 32, is slightly different from that shown in the application above mentioned, and in the present instance, is denoted by the reference numeral 33. Said arm is provided with an extension 34, which fits around the slidable member 32, and the end of the yoke is provided with a recess to receive a spring impelled pin 35, engaged therewith to hold said shifting arm 33, in neutral position. The pin 35, extends into a bearing provided therefor in the cover plate 8, and at its outer end is provided with a handle or crank 36, with a cam projection or extension 37, adapted to coact with an inclined cam portion 38, of the cover plate 8, so that by a rotational adjustment of the handle 36, the portion 37, rides upwardly on the cam portion 38, thereby retracting the pin 35, against the stress of the spring and releasing the arm 33.

Secured upon the outer end of the shaft 26, is a bevel pinion 39, meshing with a bevel

pinion 40, which is secured on the lower end of a shaft 41, extending upwardly within the casing. The shaft 41, extends into an adjustable support or housing 42, pivotally mounted upon the upper end of the casing 7, and supported at one side of the housing upon a frame bracket or arm 43, is a power driven wringer 44. The housing 42, together with the wringer, is limited in its different adjusted positions upon the upper end of the casing 7, by means of a lever 45, pivoted on one side thereof with the lower end 46, of the lever shaped to permit the same to engage in any one of a plurality of notches 47, formed in a top plate 48, of the casing 7, as clearly shown in Figures 12 and 13, to hold said housing 42, and the wringer 44, in different adjusted positions. The lever 45, is normally held in engaging position by a spring impelled detent 49, mounted in the side wall of the adjustable housing. Feathered upon the upper end of the shaft 41, within the housing 42, is a slidable jaw clutch element 50, adapted to interlock with either one of two bevel pinions or gears 51 and 52, respectively, journalled upon said shaft 41, within the housing 42. Each of the bevel pinions 51 and 52, meshes with a bevel gear 53, secured upon a shaft 54, journalled through the side wall of the housing 42, and to which one of the wringer roll shafts 55, is connected by means of a coupling 56.

When the clutch member 50, is in either one of its engaged positions, the periphery thereof is so disposed as to prevent inward movement of the spring detent 49, whereby the lever 45, is held against movement into a release or unlatching position so that it is obvious that no adjustments of the housing 42, can be made while the wringer is under the operation of the power drive.

Journalled through the side wall of the housing 42, is a shaft 57, as shown in Figure 9, provided with an actuating handle 58, on the outer end thereof, and on its inner end provided with an eccentric pin 59, on which is journalled a block 60, for engagement with the central peripheral groove of the slidable clutch member 50. Adjustments of the handle 58, serve to shift said clutch member 50, into engagement with either one of the pinions 51 and 52, or into a neutral position therebetween when the lever 58, is in the upright position shown in Figure 9. A spring detent 61, is provided mounted in an extension of the housing 42, to coact with the lower end of the lever 58, as shown in Figure 9, to hold the same in neutral position.

The operation is as follows:

The drive for the washing machine is received from the motor 4, through the shaft assembly 5—12—9, to the disk wheel 15, and through the centrifugally actuated friction arms 16, to the clutch wheel 20. The pinion 22, rigidly associated with the clutch wheel 20, in turn drives the large gear 23, which, with the pinion 24, rigidly associated therewith, drives the large gear 25, on the shaft 26. The shaft 26, serves to transmit a drive through the reversing gear mechanism to the clothes drum within the tub 2, and also to the upright wringer shaft 41. When the lever 36, is moved into the position shown in Figure 3, the pin 35, engages with the yoke arm 34, of the shifting lever 33, holding the same in neutral position and preventing engagement of the slidable clutch member 32, with either of the pinions 27 and 28, so that no drive is imparted to the clothes drum.

The upright wringer shaft 41, is driven continuously with the shaft 26, and the wringer may be driven at the option of the operator by swinging the clutch lever 58, in one position or the other to drive the wringer in either direction, by throwing the clutch element 50, into engagement with either one of the pinions 51 or 52, disposed within the adjustably mounted housing 42, thus transmitting a rotary motion to the wringer rolls. The direction of rotation of said wringer rolls may be reversed by simply moving the lever 58, to its other extreme position. When the clutch element 50, is engaged with either one of the pinions 51 or 52, the periphery thereof is disposed to prevent inward movement of the spring detent 49, thus holding the lever 45, against movement into a release or unlatching position so that while the lower end 46, of the lever 45, is engaged in one of the notches in the top plate 48, of the casing 7, no adjustments of the housing 42, can be made while the wringer is under the operation of the power drive. In order to adjust or swing the wringer 44, the lever 58, must be moved into a vertical or neutral position, engaged by the spring detent 61, which tends to hold the same in neutral position, and permitting the inner end of the detent 49, to engage in the groove of the clutch element 50, by moving the upper end of the lever 45, toward the housing 42, thereby simultaneously disengaging the lower end 46, of said lever from engagement with one of the notches 47, of the plate 48, and allowing said lower end 46, of the lever to engage the periphery of the plate 48, in which position the upper end of the lever 45, holds the detent 49, in engagement with the clutch 50, thus preventing operation of the wringer. The housing 42, and the wringer 44, may now be swung through a horizontal angle to the position desired. The wringer mechanism and clothes drum mechanism may be operated simultaneously or independently of one another from the continuously driven shaft 26, when the detent 49, and the pin 35, are

in retracted position out of engagement with the respective clutch member 50, and the yoke arm 34. In the event of the wringer or clutch mechanisms becoming jammed during operation thereof, the mechanisms will not be damaged for the reason that the clutch mechanism 15—20, will slip when over-loaded to this extent.

I am aware that numerous details of construction may be varied through a wide range without departing from the principles of this invention, and I therefore do not purpose limiting the patent granted otherwise than necessitated by the prior art.

I claim as my invention:

1. In a device of the class described the combination of an adjustably mounted wringer, shiftable means for controlling the operation of said wringer, and a lock adapted to hold the shiftable controlling means of the wringer in a predetermined position during adjustment of the wringer and adapted to automatically release said controlling means when the wringer reaches a predetermined position of adjustment.

2. In a device of the class described, the combination of an adjustably mounted wringer, of shiftable means for controlling the operation of said wringer, a pivoted means for locking the wringer in position of adjustment and a member adapted to alternately lock the shiftable means and the pivoted means in position.

3. In a device of the character described, the combination with an adjustably mounted wringer, of shiftable means for controlling the operation of said wringer, locking means for holding the aforesaid shiftable means in a predetermined position, and locking means for holding the wringer in positions of adjustment, both of said locking means being interconnected so that when either is locked the other is capable of being released.

4. In a device of the character described, the combination of an adjustably mounted wringer, reversing mechanism therefor, means for locking the wringer in positions of adjustment, and a mechanism for locking the reversing mechanism in the neutral position actuated by the releasing operation of said locking means.

5. In a device of the character described, the combination of an adjustably mounted wringer, reversing mechanism therefor, means for locking the reversing mechanism in the neutral position, and means for locking the wringer in position of adjustment and interconnected with the first mentioned locking means so that each locking means is in locking position when the other is released.

6. In a device of the character described, the combination with an adjustably mounted wringer, of a shiftable mechanism for controlling the operation of the wringer, a spring controlled member for controlling the operation of said shiftable mechanism, and locking means operable by said spring controlled member for holding the wringer in position of adjustment, said locking means being non-releasable when the shiftable mechanism is in a predetermined position for driving the wringer.

7. In a device of the character described, the combination of an adjustable wringer, mechanism for operating the wringer in forward and reverse directions and shiftable to a neutral position to discontinue operation of the wringer, locking means for holding the wringer in positions of adjustment, and slidable means for non-releasably holding said locking means in locked position when said mechanism is moved from the neutral position.

8. In a device of the character described, the combination with a wringer pivoted about a vertical axis, and a driving member concentric with said axis, for operating the same, of means for making and breaking the operative connection between said member and wringer, means for locking said wringer in fixed position relatively to said vertical axis, and means preventing the making of operative connections between said member and wringer except when said wringer is locked.

9. In a device of the character described, the combination with a base, a vertical shaft journaled therein, a wringer pivoted for movement about a vertical axis concentric with said shaft, means for locking said wringer against movement about such axis, clutch means between said wringer and shaft, and means for preventing the operation of said clutch means until said locking means has been brought to operative position.

10. In a laundry machine, in combination, a base, a vertical shaft journalled thereto, a driving motor geared to said shaft, a support pivoted to said base upon an axis concentric with said shaft, a wringer secured to said support and projecting laterally therefrom, means for securing said support immovably to said base, and means including a clutch for connecting said shaft to said wringer, said means being so related that the second cannot be operated until after the first has been operated.

11. In combination a pair of hollow members pivoted together, a shaft concentric with the pivot axis and having a clutch associated therewith, a driven member journalled in one of said hollow members and adapted to be operated from said shaft when said clutch member is in engaging position, means for locking said first mem-

bers together, and means preventing the engagement of said clutch when said members are unlocked.

12. The combination with a base, of a support adjustably arranged on the base, a driven shaft and a driving shaft both journalled in said support, gears loosely mounted on the driving shaft and cooperating with the driven shaft to move it in opposite directions, a clutch slidable on the driving shaft into selective engagement with said gears, a retaining device acting to hold the support in adjusted position on the base, and interlocking means between the retaining device and said clutch whereby disengagement of the retaining device from the base is permitted when the clutch is in neutral position and prevented when the clutch is engaged with one of said gears.

13. The combination with a base, of a support adjustably arranged on the base, a driven shaft on the support, a retaining device acting to hold the support in adjusted position on the base, and means cooperating with said retaining device and acting to prevent its disengagement from the base when the driven shaft is running and to permit such disengagement when the driven shaft is idle.

14. The combination with a base, of a support rotatably mounted on the base, a wringer supported on said support eccentrically with reference to said axis of rotation of the support, a power shaft supported on the base and connected with the wringer in line with the axis of rotation of said support, a clutch connection interposed between the power shaft and the wringer, and means for holding the support against rotation on the base, said means preventing the release of the support while the clutch is connecting the power shaft with the wringer.

15. The combination of a base, with a clothes wringer support rotatably mounted on the base, a driven shaft journalled in the support, a driving shaft also arranged on the support, gearing connecting the driving shaft and driven shaft for moving the latter in either direction including oppositely arranged gears and a slidable clutch member movable selectively into engagement therewith, a retaining device acting to hold the support in adjusted position on the base, and locking means between said clutch member and retaining device acting to hold the latter engaged with the base when the clutch member is engaged and adapted to permit release of the retaining device when the clutch member is in neutral position.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

HAROLD W. EDEN.

Witnesses:
FRED E. PARKER,
CHARLES W. HILLS, Jr.

THE EDEN DEVICE.

Fig. I diagrammatically shows the gearing construction disclosed in the Eden patent by which the rolls of a wringer can be driven in either direction or stopped at the pleasure of the operator, and a locking latch 46 for holding the wringer in various positions of adjustment with respect to the washing machine on which it is mounted. There is a grooved clutch 50 mounted between two opposed gears 51 and 52 on a driving shaft (connected to the washing machine motor) which are always in mesh with a gear 53 mounted on the lower wringer roll shaft. When the clutch is shifted into clutching engagement with the bevelled gear 51 the wringer rolls are driven in one direction, and when shifted into clutching engagement with the bevelled gear 52 the wringer rolls are driven in the opposite direction, and when the clutch is in neutral position (as shown in the cut) the wringer rolls remain idle. All of this construction was old and well known long prior to Eden. One illustration of this is shown in the prior art Lyche patent No. 1,209,981 of December 26, 1916 (R. 916), a cut of which is reproduced as Fig. II of this chart.

To this old device Eden simply added a spring pressed pin 49 mounted in the gear casing between the handle 45 of the locking latch 46 and the grooved clutch 50 for normally holding the latch in locked position, so that the wringer would not swing while the wringer rolls were being driven.

When the clutch 50 is in neutral position the locking latch handle can be swung inwardly to permit this latch to be reelased as this pin can then enter the groove of the clutch. When the clutch is in either of its driving positions one of the peripheral flanges of the clutch will be in position to prevent the pin or handle from being moved inwardly or the latch unlocked. Eden's sole feature of novelty resided in so mounting an old spring pressed pin in the gear casing of an old type of gearing between the handle of the latch, which prevented the wringer from swinging while the rolls were being operated, and the clutch for driving the wringer rolls in either direction, in such a way that the locking latch could not be unlocked or the wringer swung while the wringer rolls were in operation. It is solely upon the mounting and use of this spring pressed pin to provide an interlock between these two movable parts that each of the claims of the Eden patent in suit depend for novelty.

DEFENDANTS' DEVICE.

Fig. III diagrammatically shows the Maytag construction charged to infringe. This had been made and sold extensively, to the knowledge of plaintiff and its predecessors, nearly seven years before any claim of infringement was made by either, and it is radically different from Eden both in construction and operation.

The Maytag construction utilizes an entirely different old type of gearing construction for controlling the operation of the wringer rolls and a radically different kind of interlock from that disclosed in the Eden patent.

In this construction two gears 3 and 4 are secured together by a collar 5, which is slidably mounted on a squared portion 6 of the wringer roll shaft 7, so that when either of these gears are engaged by the driving gear 1, mounted on the driving shaft 2, the gears and the shaft on which they are mounted will be driven to drive the wringer rolls, the direction of rotation depending upon whether bevelled gear 3 or 4 is engaged by the bevelled gear 1. In neutral position, the gears 3 and 4 are out of mesh with the gear 1 and the wringer rolls will remain idle.

In this construction a vertical locking pin is mounted in the gear casing in such a way that its lower end will engage any one of a series of notches 9 in the locking plate 10 and will normally hold the wringer against swinging movement. The gears 3 and 4 are shifted through a yoke 16 which spans them. This yoke is connected with a collar 14, by an eccentric pin 15. This collar is mounted on a stub shaft 13 in the upper portion of the gear casing. A single handle 11 is secured to the upper end of shaft 13 so that by movement of it in one horizontal direction gear 3 will be shifted into engagement with gear 1 and the wringer rolls will be driven in one direction. By shifting handle 11 in the opposite horizontal direction gear 4 will be shifted into engagement with gear 1 for driving the wringer rolls in the opposite direction.

A pivoted lever 18 is mounted in the gear casing beneath the collar on which the single control handle is mounted in such a way that its inner end engages this collar and its outer end enters a notch in the upper end of the locking pin 8, so that when the gears 3 and 4 are in neutral position, out of engagement with the driving gear 1, the single control handle 11 can be moved downwardly, to press the inner end of the pivoted latch 18 downwardly and raise its outer end, thereby lifting the

locking pin. When the single control handle 11 has been moved to a position to cause either of the bevelled gears 3 or 4 to be moved into contact with the driving gear 1, this handle cannot be pressed downwardly, and for this reason the locking pin cannot be released to swing the wringer at that time.

In the Maytag device there is no grooved or other clutch, no pivoted locking latch, and no spring pressed pin between the handle of the locking latch and the clutch, all of which are essential to the construction and operation of the Eden device.

In the Maytag device there is but a single handle control, whereas in the Eden device there are two control handles, both of which are necessary to the operation of that device.

A comparison of the structure disclosed in the Eden patent and that of Maytag makes apparent the radical differences between the two and the lack of equivalency of the means employed for securing an interlock between the wringer rolls and the mechanism for preventing the swinging of the wringer while the wringer rolls are in operation.

FIG. I.

DEVICE OF EDEN PATENT.

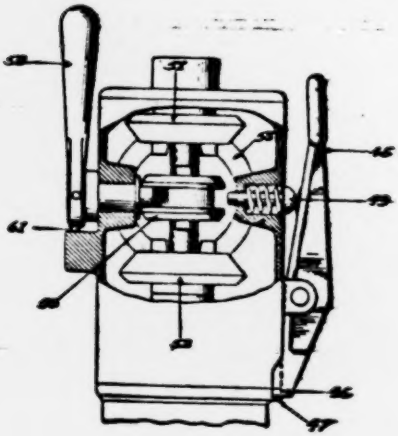

FIG. II.

H. H. LYCHE.

GEARING FOR WASHING MACHINES.

APPLICATION FILED JAN. 20, 1916.

1,209,981.

Patented Dec. 26, 1916.

2 SHEETS—SHEET 1.

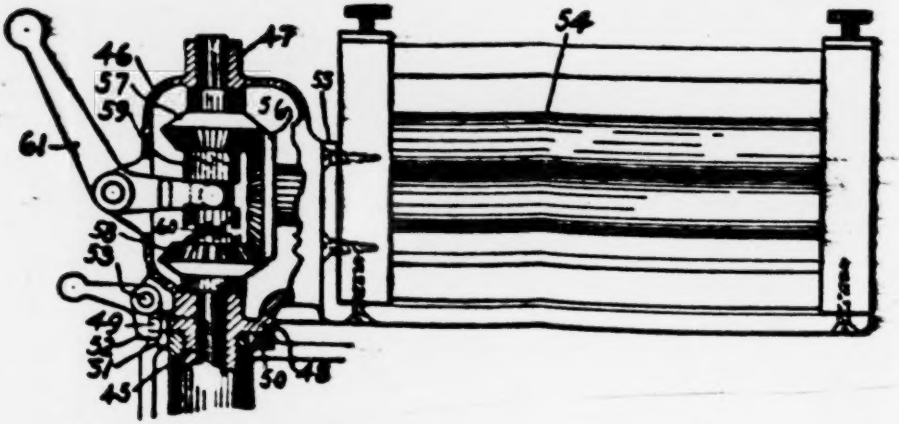

FIG. III.

DEFENDANTS' DEVICE.